IN THE SPECIFICATION

Please amend the specification as follows. Paragraphs that are being amended are listed in their entirety; changes are indicated in the left margin with a vertical change bar. Deletions are marked by ~~strikethrough~~; insertions are underlined.

Please amend the paragraph on page 1, lines 8-22, as follows:

Holographic memory systems have immense potential for the future due to their high capacity for data storage by various kinds of multiplexing recording techniques and fast access time by signal parallel processing technique. There has been extensive research in holographic ~~memory,but~~memory, but it has not been extensively used in consumer oriented data storage media. The main limitation for conventional holographic memory systems is that their sizes are too big for installation in consumer-oriented electronic products. Because of the lack of simple optical architecture and a compact light source with high power, the conventional holographic memory systems are hard to be widely used. With the recent advance in the manufacturing technology of solid-state laser diodes, there has been small size, high power and wavelength-changeable commercialized products of them. As for the optical system of holographic memory, some compact designs have been already ~~proposed,~~proposed. Therefore many conventional bottlenecks of holographic recording technique has been gradually overcame with the advance of its related technologies and time passing.

Please amend the paragraph on page 2, lines 22-24, as follows:

If the system proceeds to record the next digital image, a diffraction element (810) is needed to change the incident angle of the reference beam (820) into the crystal cube (802) to enable another data ~~recording~~recording.

Please amend the paragraph on page 5, lines 14-15, as follows:

Fig. 10 shows a spatial multiplexing recording by only changing the ~~f~~ reference beam incident position into recording medium;

Please amend the paragraph on page 6, lines 2-3, as follows:

The present invention provides a holographic memory system as illustrated in Figure 1 comprising:

Please amend the paragraph on page 6, lines 18-19, as follows:

a phase modulator (61) shown in Figures 6, 7, and 8, being disposed in the optical path of the reference beam for generating a different cross sectional phase distribution; and

Please amend the paragraph on page 7, lines 14-24, as follows:

The remaining portion of the parallel beams passes through the spatial light modulator (40). In the current embodiment the modulators (40) in grating format are implemented by a transmissive LCD panel serving as the holographic input

apparatus. The parallel beams pass through the transmissive LCD panel and becomes an objective signal beam then cast onto the volume holographic recording medium (10). The write reference beam emitted from the beam steering system (60) enters the volume holographic recording medium (10) with a proper ~~fincident~~ incident angle and incident position to proceed with the spatial and angular multiplexing recording. Each incident position and angle of the incident beam is matched against a respective particular data page in the volume holographic recording medium (10).

Please amend the paragraph on page 10, line 20, through page 11 line 10, as follows:

Another implementation of the invention with the wavelength multiplexing is shown in Fig. 9. The wavelength of the laser beam from the laser emitting assembly (20) can be changed selectively. The laser emitting assembly (20) may be implemented with a laser diode with variable wavelength or a group of laser diodes with different wavelength (the example used in ~~Fig 4~~Fig. 9 has four laser diodes). When the light source is composed of multiple laser diodes with different wavelength, a servo system is required to select a laser diode having the selected wavelength which is then fixed in the center position of the focus area of the cylindrical collimated lens. When the light passes through the cylindrical collimated lens and the rectangular aperture, parallel laser beams with proper cross sectional shape and wavelength are generated to proceed with the wavelength multiplexing recording. A reference beam having a particular cross sectional phase distribution

and particular incident position and angle is able to control write data to or read data from a predetermined page of the volume holographic recording medium.

Please amend the paragraph on page 12, lines 13-16, as follows:

To avoid the use of any mechanical means for adjusting the mirror position and reflective angle, an opto-electronic beam steering device can be employed in the beam steering system (60) to change in the incident position and angle of the reference beam without ~~djustment~~ adjustment of mirror position and angle.